B. Remarks

Claims 1-12 are pending in the application. Applicants acknowledge with appreciation the allowance of claims 9-12 by the Examiner.

Examiner's Comments:

(1) Claims 1-3 and 5 remain rejected under § 102(a) as anticipated by Mesfin *et al.*, 2001 (**C8**);

(2) Claims 1-3, and 5 remain rejected under § 102(a) as anticipated by Jacobson *et al.*, 2000 (**C5**);

(3) Claims 1-2 remain rejected under § 102(b) as anticipated by U.S. Patent No. 5,532,167 to Cantley *et al.*;

(4) Claims 1-4 remain rejected under § 102(e) as anticipated by U.S. Patent No. 6,348,567 to Krystal *et al.*; and

(5) Claims 6-8 are objected to as dependent upon a rejected base claim.

Applicants respond to each of the Examiner's comments, below.

Novelty

Rejection of Claims 1–3 and 5 under 35 U.S.C. §102(a)

Claims 1-3 and 5 remain rejected under 35 U.S.C. §102(a) as anticipated by Mesfin *et al.*, 2001 (C8 on the Information Disclosure Statement). Specifically, the Examiner rejects the claims for the reason cited on page 3 in Paper No. 12 (Office Action of January 23, 2003), *i.e.*, because the reference discloses peptide EMTPVNP[1] and EMTOVNOG. Applicants traverse for the reasons set forth below.

As Applicants indicated in their prior Response, SEQ ID NO: 6 (*i.e.*, EMTPVNPG) is not being claimed; rather, only *hydrophilic analogs of* an alpha-fetoprotein having SEQ ID NO:6 are claimed. Accordingly, the fact that EMTPVNPG is disclosed in the reference is of no consequence because Applicants do not claim that peptide.

[1] This is not quite correct; Mesfin et al. actually discloses EMTPVNPG.

Applicants appreciate the Examiner's acknowledgement on page 3 of the instant Office Action that EMTOVNPG[2] is found in 60/208,614. However, Applicants respectfully disagree with the Examiner's application of *Studiengelsellschaft Kahle m.b.H. v. Shell Oil Co.*, 112 F.3d 1561 (Fed. Cir. 1997) to claim 5 on the basis that because the other peptides in claim 5 are not found in the provisional application, the claim as a whole cannot claim the benefit of the earlier filing date.

As made clear in *Studiengelsellschaft* a claim acquires an earlier filing date if, and only if, it could have been added to an earlier application without introducing new matter (See *Studiengelsellschaft*, 112 F.3d at 1564). Applicants respectfully submit that their provisional application teaches the compounds of claims 1-3 and 5, and they are therefore entitled to the priority benefit of U.S. Application No. 60/208,614. For example, pages 1-2 of 60/208,614 teach the substitution of proline (P) in either position of (H) (designated (O) in the present patent application), such as SEQ ID NOS:8-11 in the present application. Furthermore, 60/208,614 teaches a cyclization of the peptide, such as SEQ ID NOS:5, 9, and 11 in the inastant application. Thus, claims 1-3 and 5 are also within the scope of 60/208,614 as filed, and properly claim priority to that provisional application. Accordingly, the Mesfin reference is not prior art under § 102(a) because it was published after Applicants invented the subject matter of claims 1-3 and 5. Reconsideration and withdrawal of the rejection is therefore in order, and is respectfully requested.

Rejection of Claims 1-3, and 5 under 35 U.S.C. §102(a)

Claims 1-3, and 5 are now rejected under 35 U.S.C. §102(a) as anticipated by Jacobson *et al.* (**C5** on the Information Disclosure Statement). Specifically, the Examiner rejects the claims for the reasons cited on page 3 of Paper No. 12, *i.e.*, because the reference discloses EMTPVNPG, QMTPVNPG, QMTPVNPGE, and analogs and cyclized forms thereof. Applicants traverse for the reasons set forth below.

Again, Applicants point out that SEQ ID NO: 6 (or EMTPVNPG, for that matter) is not claimed; only peptides 8-20 amino acids in length, which are hydrophilic analogs of an alpha-fetoprotein having SEQ ID NO:6 are claimed. Furthermore, provisional application 60/208,614 discloses the peptides QMTPVNPG and QMTPVNPGE on page 1 of the application as filed (*see* Application No. 60/208,614, page 1, Paragraphs A1 and A2), as well

[2] Actually EMTOVNQG, (*i.e.*, Applicants' SEQ ID NO:4)

as analogs and cyclized forms thereof (*See id.* page 2). Thus, this reference is not prior art under § 102(a) because it was published after Applicants invented the subject matter of claims 1-3 and 5 (*compare* October 2000 publication date for C5 on 1449 form *with* June 2000 filing date for 60/208,614). Notwithstanding the above, QMTPVNPG and QMTPVNPGE are not presently claimed in the instant application. Reconsideration and withdrawal of the rejection is respectfully requested.

Rejection of Claims 1 and 2 under 35 U.S.C. §102(b)

Claims 1 and 2 remain rejected under 35 U.S.C. §102(b) as anticipated by Cantley *et al.* U.S. Patent No. 5,532,167. Specifically, the Examiner rejected claims 1 and 2 because Cantley discloses a sequence (SEQ ID NO:36) that allegedly reads on an analog of SEQ ID NO:6. The Examiner maintains that the peptide in the reference reads on an analog of SEQ ID NO:6 because Applicants have not defined what is encompassed by the term "analog". The Examiner further maintains that since SEQ ID NO:36 reads on an analog of SEQ ID NO:6, SEQ ID NO:36 inherently possesses antiestrotrophic activity (*See* Office Action, page 4). Applicants traverse for the reasons set forth below.

First, although the inventor may be his own lexicographer pursuant to MPEP § 2111.01, the terms of a claim are to be given their ordinary meaning to one of skill in the art unless it appears from the patent and file history that the terms were used differently by the inventor (*see also, Envirotech v. Al George, Inc.*, 730 F.2d (Fed. Cir. 1984)). It is clear from the context of the Specification and the claims what Applicants mean by "analog". Specifically, the term "analogs", as used in the instant application, encompass those hydrophilic peptides that are structurally derived from, or are similar to, alpha-fetoproteins, which are further based on SEQ ID NO:6 (*See, e.g.*, Field of the Invention, page 1; page 2, lines 32-end, and page 3, lines 1-2; and Summary of the invention). In further support of this interpretation, Applicants enclose herewith as Exhibit 1 the definition of "analog" (also "analogue") from *Dorland's Medical Dictionary* to show how one of ordinary skill in the art would interpret the term "analog" as used in the instant application (*see, e.g.*, definitions of "folic acid analogue", "purine analogue", and "pyrimidine analogue".)

Thus, based on the use of the term in the context of the Specification, and as illustrated by the entry in *Dorland's*, SEQ ID NO:36 - known to be an HIV Enhancer-Binding Protein as disclosed by Cantley - would not be considered, by one of ordinary skill in the art, an alpha-

fetoprotein analog of SEQ ID NO:6 having hydrophilic and antiestrotrophic properties. Therefore, SEQ ID NO:36 cannot read on an analog of SEQ ID NO:6 as claimed by Applicants, and the application of Cantley against the presently pending claims under § 102(b) is inappropriate.

Second, anticipation is established only when a single prior art reference discloses, expressly or inherently, each and every element of a claimed invention. As clearly indicated by MPEP §2112, however, the fact that a certain result or characteristic *may* occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In relying upon the theory of inherency, an examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art (*see* MPEP §2112). Applicants respectfully submit that, in this instance, the Examiner has not fulfilled this initial burden. Supplying a reference allegedly teaching a product appearing to be substantially identical to the claimed composition (*i.e.*, identity of four amino acids in an 8-mer or 9-mer) is not enough. Evidence or reasoning tending to show inherency must be provided by the Examiner. Such evidence/reasoning was not supplied in Paper No. 12 (Office Action of January 23, 2003). Thus, Applicants' previous response was not required to provide objective evidence because a *prima facie* case was not made.

Applicants reassert that Cantley does not anticipate claims 1 and 2, expressly or inherently, because SEQ ID NO:36 is not a hydrophilic alpha-fetoprotein analog structurally derived from SEQ ID NO:6 which possesses antiestrotrophic activity. Reconsideration and withdrawal of the rejection is respectfully requested.

Rejection of Claims 1-4 under 35 U.S.C. §102(e)

Claims 1-4 remain rejected under 35 U.S.C. §102(e) as anticipated by Krystal et al. U.S. Patent No. 6,348,567. Specifically, the Examiner rejects claims 1-4 because Krystal discloses a sequence (SEQ ID NO:5) that allegedly reads on an analog of SEQ ID NO:6. Applicants traverse for the reason set forth below.

The cited Krystal peptide is SVDVEYTVQFTPLNPDDD, which is stated to be an analog/derivative of streptokinase (*see* col. 4, lines 19-21). In view of the Cantley argument, above, Applicants reassert that this peptide does not anticipate, either expressly or inherently,

claims 1-4, which are directed to hydrophilic alpha-fetoprotein analogs, of a specified length, structurally derived from SEQ ID NO:6 *and* which possess antiestrotrophic activity. Neither the Krystal peptide nor the Krystal et al. patent disclosure teach or suggest such compounds. As previously indicated, Applicants do not claim all analogs of SEQ ID NO:6, just those meeting the claim language for which there is support in the Specification.

The Krystal peptide cannot be construed as a hydrophilic analog of SEQ ID NO: 6 of the instant application, nor has the Examiner provided a basis in fact and/or technical reasoning to reasonably support a determination that inherent characteristics of the claimed invention necessarily flow from the teachings of the applied prior art. Applicants respectfully reassert that the Krystal peptide is devoid of antiestrotrophic activity – which is consistent with the total lack of teaching of same in the specification - and is therefore unsuitable for the uses described in Applicants' Specification. Since Applicants' peptides in claims 1-4 possess antiestrotrophic activity, Krystal does not anticipate.

Reconsideration and withdrawal of the rejection is respectfully requested.

Claim Objections

Objection to claims 6-8 Overcome

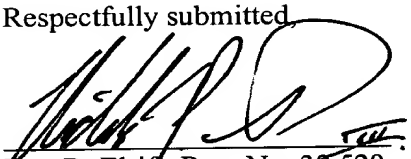
The Examiner objected to claims 6-8 for depending upon a rejected base claim. These objections stand or fall with the rejections of claims 1-5. In view of the arguments above, the remaining rejections to claims 1-5 have been overcome. Thus, the objections to claims 6-8 are moot and should be withdrawn.

Summary

On the basis of the foregoing remarks, Applicants respectfully submit that the pending claims are in condition for allowance. If there are any questions regarding the content of this paper, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

No fee is believed due with this submission. However, the Commissioner is hereby authorized to charge payment of any necessary fees which may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 19705-010.

Respectfully submitted,



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Dated: July 16, 2003

TRA 1813469v2

analogue (an·a·logue) (an'[schwa]-log) 1. a part or organ having the same function as another, but of a different evolutionary origin; cf. *homologue* (def. 1). 2. a chemical compound with a structure similar to that of another but differing from it in respect to a certain component; it may have a similar or opposite action metabolically. Cf. *homologue* (def. 2).

folic acid analogu , a structural analogue of folic acid; see *folic acid antagonist*, under *antagonist*.

homologous analogue, a part that is similar to another in both function and structure.

metabolic analogue, a closely similar compound which tends to replace an essential metabolite.

purine analogue, a structural analogue of one of the purine bases (purine, adenine, or guanine): 6-mercaptopurine and 6-thioguanine are used as antineoplastics, azathioprine as an immunosuppressive; the antiviral agent vidarabine (adenine arabinoside) is an analogue of the adenine nucleoside adenosine.

pyrimidine analogue, a structural analogue of one of the pyrimidine bases (cytosine, thymine, or uracil): 5-fluorouracil and cytarabine (cytosine arabinoside), analogues of the cytosine nucleotide deoxycytidine, are important antineoplastic agents.

substrate analogue, a substance with a structure similar to the natural substrate of an enzyme and which, because of this similarity, in some cases inhibits the action of the enzyme, as in competitive inhibition.